

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	40	(hardware adj (interpret\$3 or compil\$3 or translat\$3)) same loop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/25 07:33
L2	216	(hardware near3 (process\$3 or preprocess\$3 or cach\$3)) near5 loop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 07:35
L3	216	(hardware near3 (process\$3 or preprocess\$3 or cach\$3)) near5 loop\$3 and loop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 07:42
L4	19	(hardware near3 (process\$3 or preprocess\$3 or cach\$3)) near5 loop\$3 and loop\$3 and (jvm or vm or java or bytecode or "byte code" or "virtual machine")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 07:58
L5	56	(hardware near3 (process\$3 or preprocess\$3 or cach\$3)) near5 loop\$3 and loop\$3 and (embed\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 08:14
L6	44	(hardware near5 (process\$3 or preprocess\$3 or cach\$3)) near5 loop\$3 and loop\$3 and (compil\$5 or native) near5 (jvm or vm or java or bytecode or "byte code" or "virtual machine")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 08:21
L7	42	I6 not I5 not I4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 09:11
L9	42	stor\$3 same loop\$3 same (native or executable or compiled or binaries or binary) same (java or bytecode or "byte code" or vm or jvm or "virtual machine")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 09:15
L10	42	I9 not I7	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/25 09:15
L11	17	("6349377").URPN.	USPAT	OR	OFF	2006/09/25 13:19

EAST Search History

L12	225	712/241.ccls.	USPAT	OR	OFF	2006/09/25 13:19
L13	85	712/243.ccls.	USPAT	OR	OFF	2006/09/25 13:19
L14	5	712/241.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral)	USPAT	OR	OFF	2006/09/25 13:22
L15	8	712/243.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral)	USPAT	OR	OFF	2006/09/25 13:29
L16	158	717/148.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral)	USPAT	OR	OFF	2006/09/25 13:31
L17	15	717/150.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral)	USPAT	OR	OFF	2006/09/25 13:30
L18	107	717/139.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral)	USPAT	OR	OFF	2006/09/25 13:30
L19	125	717/148.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral) and (hardware or accelerator or preprocess\$3)	USPAT	OR	OFF	2006/09/25 13:32
L20	38	717/148.ccls. and (java or bytecode or vm or jvm or "virtual machine" or "byte code" or neutral) and (hardware or accelerator or preprocess\$3) same native	USPAT	OR	OFF	2006/09/25 13:32
S1	2	"5889996".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 15:47
S2	2	"5768593".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 15:48
S3	33	"5768593".URPN.	USPAT	OR	OFF	2004/07/29 15:47
S4	12	"5889996".URPN.	USPAT	OR	OFF	2004/07/29 15:48
S5	2	"5872978".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 15:51
S6	4	"5872978".URPN.	USPAT	OR	OFF	2004/07/29 15:50

EAST Search History

S7	2	"4638423".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 15:52
S8	33	"4638423".URPN.	USPAT	OR	OFF	2004/07/29 15:51
S9	2	"5872978".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 15:54
S10	4	"5872978".URPN.	USPAT	OR	OFF	2004/07/29 15:52
S11	13	("5768593".URPN. or "5889996". URPN. or "4638423".URPN.) and (vm or jvm or (virtual adj machine)) and interpret\$3 and native and (loop\$3 or repeat\$3) and (memory or address\$3 or range)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:28
S12	11216	(wat or (way near3 ahead) or awat or (away near3 ahead) or (ahead near3 time))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:29
S13	415	(wat or (way near3 ahead) or awat or (away near3 ahead) or (ahead near3 time)) and (java or bytecode or byte-code) and (compil\$5 or optimiz\$5 or optimis\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:30
S14	35	(wat or (way near3 ahead) or awat or (away near3 ahead) or (ahead near3 time)) and (java or bytecode or byte-code) and (compil\$5 or optimiz\$5 or optimis\$5) and 717/???.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:34
S15	264	(wat or (way near3 ahead) or awat or (away near3 ahead) or (ahead near3 time)) and (java or bytecode or byte-code) and (compil\$5 or optimiz\$5 or optimis\$5) and loop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:36
S16	6986480	way ahead of time	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:35
S17	23527	(way ahead of time) and (java or bytecode or byte-code)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:35

EAST Search History

S18	264	(wat or (way near3 ahead) or awat or (away near3 ahead) or (ahead near3 time)) and (java or bytecode or byte-code) and (compil\$5 or optimiz\$5 or optimis\$5) and loop\$3 and (way ahead of time)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:36
S19	315891	(way ahead of time).ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:36
S20	0	((way adj ahead) near3 time).ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:37
S21	4	((way adj ahead)).ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:37
S22	1	((away adj ahead)).ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:39
S23	0	toba and comil\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:41
S24	0	aot and comil\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:41
S25	28	aot and compil\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:41
S26	20	toba and compil\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:46

EAST Search History

S27	320	717/140.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:46
S28	166	717/148.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:47
S29	130	717/160.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/07/29 16:47
S30	8	(compil\$5 near3 native) same loop\$3 and (jvm or vm or bytecode or byte-code)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/08/05 13:50
S31	1	"5768593".pn. and loop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/08/05 13:46
S32	1	"5768593".pn. and loop\$3 and execut\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/08/05 13:47
S33	0	(compil\$5 near3 native) same loop\$3 and (backward near2 loop\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/05 13:51
S34	2	(compil\$5 near3 native) same loop\$3 and (backward near2 branch\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/05 13:52
S35	2	(compil\$5 near3 native) same loop\$3 and (conditional near2 branch\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/05 13:53
S36	7	("5768593" "4638423" "6292883" "9298434").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/16 14:58

EAST Search History

S37	39	("5768593").URPN.	USPAT	OR	OFF	2005/05/16 15:03
S38	0	("5768593").URPN. and ("directly executing" or "on the fly" or "execute immediately")	USPAT	OR	OFF	2005/05/16 15:04
S39	0	emulat\$3 near5 (without near3 stor\$3)	USPAT	OR	OFF	2005/05/16 15:05
S40	21	emulat\$3 near5 (without near3 stor\$3)	USPAT	OR	OFF	2005/05/16 15:08
S41	451	execut\$3 near5 (without near3 stor\$3)	USPAT	OR	OFF	2005/05/16 15:08
S42	129	virtual and execut\$3 near5 (without near3 stor\$3)	USPAT	OR	OFF	2005/05/16 15:09
S43	97	virtual and (translat\$3 or transform\$3 or generat\$3) and execut\$3 near5 (without near3 stor\$3)	USPAT	OR	OFF	2005/05/16 15:11
S44	119	virtual and (translat\$3 or transform\$3 or generat\$3) and execut\$3 near5 (without near3 stor\$3)	USPAT	OR	OFF	2005/05/16 15:11
S45	23	virtual and (translat\$3 or transform\$3 or generat\$3) and execut\$3 near5 (without near3 stor\$3) and (vm or jvm or jit or jitt\$3 or ("virtual machine"))	USPAT	OR	OFF	2005/05/16 15:25
S46	15542	virtual and (translat\$3 or transform\$3 or generat\$3) and stream\$3	USPAT	OR	OFF	2005/05/16 15:26
S47	6328	virtual and (translat\$3 or transform\$3 or generat\$3) same stream\$3	USPAT	OR	OFF	2005/05/16 15:26
S48	9	(translat\$3 or transform\$3 or generat\$3) same stream\$3 same "without storing"	USPAT	OR	OFF	2005/05/16 15:27
S49	562	(translat\$3 or transform\$3 or generat\$3) same stream\$3 near3 instructions	USPAT	OR	OFF	2005/05/16 15:27
S50	52	(translat\$3 or transform\$3 or generat\$3) same stream\$3 near3 instructions and (vm or jvm or jit or jitt\$3 or ("virtual machine"))	USPAT	OR	OFF	2005/05/16 15:28
S51	6	("5586328").PN. OR ("5872978").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/05/16 15:32
S52	3	"hardware pre-processor"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:01

EAST Search History

S53	0	"hardware pre-processor" same (PC or "program counter")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 14:52
S54	1692	"hardware processor"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:02
S55	3331	"pre-processor"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:02
S56	30	"pre-processor" adj (hardware or device or apparatus)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:03
S57	0	"pre-processor" adj (hardware or device or apparatus) and "virtual machine"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:03
S58	1	"pre-processor" adj (hardware or device or apparatus) and interpreter	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:03
S59	0	"pre-processor" adj (hardware or device or apparatus) same (pc or "program counter" or "instruction counter")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:04
S60	1015	"hardware accelerator"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:17
S61	27	"hardware accelerator" and (hardware or device or apparatus) same (pc or "program counter" or "instruction counter") and ("virtual machine" or vm or jvm or interpreter)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/22 07:59
S62	2	"6910207".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/03/21 15:19

EAST Search History

S63	2	((hardware adj accelerator) or vm or (virtual adj machine) or (hardware near2 preprocessor) or jit\$4) same ((loop\$3 near2 cach\$3) or (loop\$3 near5 (stor\$3 near3 native))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/07 08:47
S64	0	((hardware adj (translator or accelerator)) or ((vm or (virtual adj machine) or hardware) near2 preprocessor) or jit\$4)) same ((loop\$3 near2 cach\$3) or (loop\$3 near5 (stor\$3 near3 native))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/07 08:51
S65	493	(loop\$3 near3 cach\$3) and (native or machine or compiled or executable)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/07 08:54
S66	0	hardware near2 (translat\$3 or preprocessor or "pre-processor" or accelerator) same (loop\$3 near3 cach\$3) and (native or machine or compiled or executable)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/07 08:56
S67	3	hardware near2 (translat\$3 or preprocessor or "pre-processor" or accelerator) same (native or machine or compiled or executable) and (loop\$3 near3 cach\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/07 09:00
S68	141	hardware near2 (translat\$3 or preprocessor or "pre-processor" or accelerator) same (native or machine or compiled or executable) and (loop\$3 near3 cach\$3) (bytecode or (virtual adj machine)) same (loop\$3 or (execut\$3 near2 repeat\$3)) and (cach\$3 or stor\$3 or journal\$3) near5 ((native or machine or executable) near2 (code or instruction))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/07 09:04
S69	141	hardware near2 (translat\$3 or preprocessor or "pre-processor" or accelerator) same (native or machine or compiled or executable) and (loop\$3 near3 cach\$3) and (java or bytecode or (byte adj code) or vm or virtual) (bytecode or (virtual adj machine)) same (loop\$3 or (execut\$3 near2 repeat\$3)) and (cach\$3 or stor\$3 or journal\$3) near5 ((native or machine or executable) near2 (code or instruction))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/07 09:07

EAST Search History

S70	138	hardware near2 (translat\$3 or preprocessor or "pre-processor" or accelerator) same (native or machine or compiled or executable) same (loop\$3 near3 cach\$3) and (java or bytecode or (byte adj code) or vm or virtual) (bytecode or (virtual adj machine)) same (loop\$3 or (execut\$3 near2 repeat\$3)) and (cach\$3 or stor\$3 or journal\$3) near5 ((native or machine or executable) near2 (code or instruction))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/07 09:32
S71	7	("6349377" "6782407" "6996703" "6298434").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/07 09:32
S72	11	("5355463" "5577259" "5842017" "5925123" "6009405" "6021273" "6134573" "6205541" "6212678" "6314445" "6826749").PN. OR ("6996703").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:14
S73	7	("5983340" "5991863" "5995747" "6009505" "6014723" "6026484" "6026485").PN. OR ("6782407").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:14
S74	21	("5577295" "5925123" "6009405" "6021273").PN. OR ("6349377").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:15
S75	19	("3735363" "4443865" "4633390" "4754393" "4785393" "6009261").PN. OR ("6298434").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:15
S76	46	S72 S73 S74 S75	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:15
S77	25	(S72 S73 S74 S75) and loop\$3	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:42
S78	12	lindwer.in.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/07 10:42
S79	40	(hardware adj (interpret\$3 or compil\$3 or translat\$3)) same loop\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/09/25 07:09



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Re

1 [AJaPACK: experiments in performance portable parallel Java numerical lib](#)

Shigeo Itou, Satoshi Matsuoka, Hirokazu Hasegawa

June 2000 **Proceedings of the ACM 2000 conference on Java Grande**

Publisher: ACM Press

Full text available: [pdf\(976.22 KB\)](#) Additional Information: [full citation](#), [refe](#)
[index terms](#)

→ 2 [Improving Java performance using hardware translation](#)

Ramesh Radhakrishnan, Ravi Bhargava, Lizy K. John

June 2001 **Proceedings of the 15th international conference on Superco**

Publisher: ACM Press

Full text available: [pdf\(254.91 KB\)](#) Additional Information: [full citation](#), [abst](#)
[citings](#), [index ter](#)

State of the art Java Virtual Machines with Just-In-Time (JIT) compilers advanced compiler techniques, run-time profiling and adaptive compilati performance. However, these techniques for alleviating performance bot effective in long running workloads, such as server applications. Short r programs, or client workloads, spend a large fraction of their execution t instead of useful execution when run using JIT compilers. In ...

3 Techniques for obtaining high performance in Java programs

◆ Iffat H. Kazi, Howard H. Chen, Berdenia Stanley, David J. Lilja
September 2000 **ACM Computing Surveys (CSUR)**, Volume 32 Issue 3
Publisher: ACM Press

Full text available: [pdf\(816.13 KB\)](#) Additional Information: [full citation](#), [abstracts](#), [citations](#), [index terms](#)

This survey describes research directions in techniques to improve the performance of Java programs written in the Java programming language. The standard technique for Java execution is interpretation, which provides for extensive portability of programs. The interpreter dynamically executes Java bytecodes, which comprise the instructions of the Java Virtual Machine (JVM). Execution time performance of Java programs has been improved through compilation, possibly at the expense of portability ...

Keywords: Java, Java virtual machine, bytecode-to-source translators, dynamic compilation, interpreters, just-in-time compilers

4 Attacking the semantic gap between application programming languages and hardware

◆ Greg Snider, Barry Shackleford, Richard J. Carter
February 2001 **Proceedings of the 2001 ACM/SIGDA ninth international conference on Very Large Scale Integration: Field programmable gate arrays**

Publisher: ACM Press

Full text available: [pdf\(258.65 KB\)](#) Additional Information: [full citation](#), [abstracts](#), [citations](#), [index terms](#)

It is difficult to exploit the massive, fine-grained parallelism of configurable hardware. The semantic gap between conventional application programming language such as C, Pascal or Java and hardware arises from the mismatch between the synchronous, concurrent processing model of the hardware and the expressiveness of the language-the so-called "semantic gap". This paper attacks this problem by using a programming model matched to the hardware's capabilities. The model can be implemented in any (unmodified) object-oriented language ...


5 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies in Computing and Communications**


on Collaborative research

Publisher: IBM Press


Full text available:  pdf(4.21 MB) Additional Information: [full citation](#), [abstracts](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualization on process-time diagrams are often used to obtain a better understanding of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex, making it difficult for the user with the desired overview of the application. In our experience, repeated occurrences of non-trivial communication patterns are common.

6 Implementing jalapeño in Java

-  Bowen Alpern, C. R. Attanasio, Anthony Cocchi, Derek Lieber, Stephen S. John J. Barton, Susan Flynn Hummel, Janice C. Sheperd, Mark Mergen
October 1999 **ACM SIGPLAN Notices , Proceedings of the 14th ACM conference on Object-oriented programming, systems, languages, and applications OOPSLA '99**, Volume 34 Issue 10

Publisher: ACM Press


Full text available:  pdf(1.57 MB) Additional Information: [full citation](#), [abstracts](#), [citations](#), [index terms](#)

Jalapeño is a virtual machine for Java™ servers written in Java. A running Jalapeño involves four layers of functionality: the user code, the virtual-machine, the operating system, and the hardware. By drawing the Java / non-Java boundary below the virtual machine rather than above it, Jalapeño reduces the boundary-crossing overhead and opens up more opportunities for optimization. To get Jalapeño started, a boot image is required.

7 Java bytecode to native code translation: the caffeine prototype and preliminary results

- Cheng-Hsueh A. Hsieh, John C. Gyllenhaal, Wen-mei W. Hwu
December 1996 **Proceedings of the 29th annual ACM/IEEE international symposium on Microarchitecture**

Publisher: IEEE Computer Society

Full text available:  pdf(1.03 MB) Additional Information: [full citation](#), [abstracts](#), [citations](#), [index terms](#)


The Java bytecode language is emerging as a software distribution standard. As more vendors committed to porting the Java run-time environment to their platforms, Java bytecode are expected to run without modification on multiple platforms.

generation run-time environments rely on an interpreter to bridge the gap between bytecode instructions and the native hardware. This interpreter approach is used in specialized applications such as Internet browsers where ...

8 The Flux OSKit: a substrate for kernel and language research

- ◆ Bryan Ford, Godmar Back, Greg Benson, Jay Lepreau, Albert Lin, Olin Shivers
October 1997 **ACM SIGOPS Operating Systems Review , Proceedings of the
ACM symposium on Operating systems principles SOSP**
Issue 5

Publisher: ACM Press

Full text available:  [pdf\(2.47 MB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

9 Ada and Java on the WWW

- ◆ Robert G. Munck, Richard F. Hilliard
May 1997 **ACM SIGAda Ada Letters**, Volume XVII Issue 3

Publisher: ACM Press

Full text available:  [pdf\(745.26 KB\)](#) Additional Information: [full citation](#), [abstract](#)

The Java language for World-Wide Web (WWW, "Web") programming is a variant of C++, is currently receiving great amounts of publicity. It compiles to executable byte-code that is run interpretively, making it object-code portable across platforms having an interpreter. The primary use is to download logic embedded in web pages, allowing them to have animated images, automatic playing of digital audio, video, syntactic checking of form entries, interactive games, and other applications.

10 Modeling reactive systems in Java

- ◆ C. Passerone, C. Sansoe, L. Lavagno, R. McGeer, J. Martin, R. Passerone, Vincentelli
October 1998 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 3 Issue 4

Publisher: ACM Press

Full text available:  [pdf\(79.66 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

We present an application of the JavaTM programming language to specify and synthesize reactive systems.

reactive real-time systems. We have developed and tested a collection of methods to describe concurrent modules and their asynchronous communication of signals. The control structures are closely patterned after those of the language Esterel, succinctly describing concurrency, sequencing and preemption, the user-friendliness and ...


Keywords: Java, high level design, prototyping, simulation

11 A comparison of the concurrency features of Ada 95 and Java

◆ Benjamin M. Brosgol

November 1998 **ACM SIGAda Ada Letters , Proceedings of the 1998 annual SIGAda international conference on Ada SIGAda '98,**
Issue 6

Publisher: ACM Press

Full text available:  [pdf\(1.99 MB\)](#) Additional Information: [full citation](#), [reference terms](#)

Keywords: Ada, Java, concurrency, inheritance anomaly, object-oriented programming, tasking, threads

12 A comparison of Ada and Java as a foundation teaching language

◆ Benjamin M. Brosgol

September 1998 **ACM SIGAda Ada Letters, Volume XVIII Issue 5**

Publisher: ACM Press

Full text available:  [pdf\(1.49 MB\)](#) Additional Information: [full citation](#), [abstract terms](#)


Java has entered the software arena in unprecedented fashion, upstaging technologies that are longstanding players in the industry. Almost everywhere the language and its surrounding technology are attracting increasing attention from the hardware and software communities but also among lay users and in the media. This phenomenon has not escaped the attention of academia, and a growing number of colleges and universities are looking at Java as a candidate for ...

13 Adding real-time capabilities to Java

◆ Kelvin Nilsen

June 1998 **Communications of the ACM**, Volume 41 Issue 6

Publisher: ACM Press


Full text available:  [pdf\(266.77 KB\)](#) Additional Information: [full citation](#), [reference terms](#), [review terms](#)

14 Looking inside VRwave: the architecture and interface of the VRwave VR

◆ Keith Andrews, Andreas Pesendorfer, Michael Pichler, Karl Heinz Wagenl

February 1998 **Proceedings of the third symposium on Virtual reality n**

Publisher: ACM Press


Full text available:  [pdf\(947.74 KB\)](#) Additional Information: [full citation](#), [reference terms](#), [review terms](#)

15 Implementing signatures for C++

◆ Gerald Baumgartner, Vincent F. Russo

January 1997 **ACM Transactions on Programming Languages and Systems**
Volume 19 Issue 1

Publisher: ACM Press

Full text available:  [pdf\(305.82 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#), [review terms](#)

We outline the design and detail the implementation of a language extension for C++ types and for decoupling subtyping and inheritance in C++. This extension provides more of the flexibility of dynamic typing while retaining the efficiency of static typing. After a brief discussion of syntax and semantics of this language extension, examples of its use, we present and analyze three different implementations: a preprocessor to a C++ compiler, an implem ...


Keywords: C++, dispatch tables, inheritance, object interfaces, polymorphism


16 A hardware/software prototyping environment for dynamically reconfigurable systems

Josef Fleischmann, Klaus Buchenrieder, Rainer Kress

March 1998 **Proceedings of the 6th international workshop on Hardware codesign**

Publisher: IEEE Computer Society

Full text available:  pdf(42.66

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17 Software synthesis of process-based concurrent programs

 Bill Lin

May 1998 **Proceedings of the 35th annual conference on Design automation**

Publisher: ACM Press

Full text available:  pdf(337.60

KB) 

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We present a Petri net theoretic approach to the software synthesis problem. We synthesize ordinary C programs from process-based concurrent specifications. The need for a run-time multi-threading environment. The synthesized C programs are readily retargeted to different processors using available optimizing C compilers. The compiler can also generate sequential Java programs as output, which can be mapped to a target processor without the need for a multi-threading environment.


Keywords: MPEG4, codec, design automation, flip-flops, level conversion, placement, synthesis, voltage scaling

18 The structure and performance of interpreters

 Theodore H. Romer, Dennis Lee, Geoffrey M. Voelker, Alec Wolman, Walid L. Baer, Brian N. Bershad, Henry M. Levy

September 1996 **ACM SIGPLAN Notices**, **ACM SIGOPS Operating Systems**
Proceedings of the seventh international conference on support for programming languages and operating systems
VII, Volume 31, Issue 9, 5

Publisher: ACM Press

Full text available:  [pdf\(1.17 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Interpreted languages have become increasingly popular due to demands for rapid development, ease of use, portability, and safety. Beyond the general impression that they are "slow," however, little has been documented about the performance of this class of applications. This paper examines interpreter performance by measuring and analyzing interpreters from both software and hardware perspectives. As a baseline, we measure the MIPS, Java, Perl, and Tcl interpreters running on ...

19 JMTP: an architecture for exploiting concurrency in embedded Java applications: time considerations

Rachid Helaihel, Kunle Olukotun


November 1999 **Proceedings of the 1999 IEEE/ACM international conference on Computer-aided design**

Publisher: IEEE Press

Full text available:  [pdf\(139.94 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)


Using Java in embedded systems is plagued by problems of limited runtime performance and unpredictable runtime behavior. The Java Multi-Threaded Processor (JMTP) architecture provides solutions to these problems. The JMTP architecture is a single chip containing a shelf general purpose processor core coupled with an array of Java Thread Processors (JTPs). Performance can be improved using this architecture by exploiting parallelism in the application. These performance improvements are ...

20 A more efficient RMI for Java

 Christian Nester, Michael Philippsen, Bernhard Haumacher

June 1999 **Proceedings of the ACM 1999 conference on Java Grande**

Publisher: ACM Press




Full text available:  [pdf\(1.13 MB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

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J Kamdar - DEDICATED SYSTEMS MAGAZINE, 2000 - realtime-info.be

... In a **loop** that executes hundreds of thousands of ... designers to start again with new

hardware, new and ... approach was to develop a **Java accelerator** that could be ...

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[Real-time prototyping in microprocessor/accelerator symbiosis - group of 5 »](#)

J Becker, R Hartenstein - Proc. IEEE International Workshop on Rapid System ..., 1998 - doi.ieeecomputersociety.org

... expressed in programming languages, like C or **Java**. ... implemented, based on two-level

hardware/software co ... Program parts for **accelerator** execution are expressed ...

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[High-Performance Java Software Development - group of 3 »](#)

J Schatzman, R Donehower - **Java** Report, 2001 - individual.utoronto.ca

... does not take full advantage of **hardware** acceleration.

... as a mix of pure **Java** code

and ... ported by numerous readily available graphics **accelerator** cards (Creative ...

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A DSP-based Control System for the ISAC Pre-Buncher - group of 2 »

M Lavery, K Fong, S Fang - Proceedings of the International Conference on **Accelerator** ..., 1997 - aps.anl.gov

... as well as during diagnostics, where **hardware** faults can ... to be reduced as faster

JAVA compilers and ... cavity in ISAC", Particle **Accelerator** Conference, Vancouver ...

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Towards performance evaluation of high-performance computing on multiple **Java** platforms - group of 3 »

S Matsuoka, S Itou - Future Generation Computer Systems, 2001 - Elsevier

... erates optimal code given a certain **hardware** platform ... algorithm for some platforms

(**J-Accelerator** and x86 ... Table 1 indicate that different **Java** platforms exhibit ...

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... in co-compilation for configurable accelerators-ahost/**accelerator** partitioning compilation method

J Becker, R Hartenstein, M Herz, U Nageldinger - Design Automation Conference 1998. Proceedings of the ASP- ..., 1998 - ieeexplore.ieee.org

... A Host /**Accelerator** Partitioning Compilation Method ... expressed in programming languages, like C or **Java**. ... Previous section "The **Hardware** Gap" has also shown ...

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Interlock and control for the RF system of the ANKA storage ring

D Einfeld, F Perez, S Voigt, M Humpert, FK ANKA - Particle **Accelerator** Conference, 1999. Proceedings of the ..., 1999 - ieeexplore.ieee.org

Proceedings of the 1999 Particle **Accelerator** Conference, New York ... The first is based on **Java** language for NT ... PLC system and the third is **hardware** electronic. ...

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[Performance of Java versus C+](#)

JP Lewis - Computing in Science & Engineering, 2001 - idiom.com

... The authors conclude, "On Intel Pentium **hardware**, especially with Linux ... in Physics, worked at Stanford Linear **Accelerator**, etc. Operation, Units, C, Smalltalk, **Java** ...

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P Burk - Proceedings of the 1998 International Computer Music ..., 1998 - softsynth.com

... **Java** classes implementing API ... of the synthesis engine on a fixed point DSP **accelerator** if needed. ... in case the audio data needs to be accessed via DMA **hardware**. ...

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T Tanabe, T Masuoka, J Ohnishi, Y Watanabe, R ... - International Conference on **Accelerator** and Large ..., 1999 - ccwww.kek.jp

... is to establish heterogeneous environment in **accelerator** controls. ... It suggests that **java** client for this particular ... are due to those in **hardware** performance or ...

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